

CONTROL OF VOC EMISSIONS FROM ABOVEGROUND STORAGE TANKS (AST)



Stakeholder Meeting
February 18, 2010

SIMPLIFIED PHOTOCHEMISTRY OF O₃ FORMATION

Ozone formation

Sunlight



Oxygen (O₂) +
Volatile Organic Compounds (VOC) +
Nitrogen Oxides (NO_x)



Ozone (O₃)



OZONE NAAQS ATTAINMENT

National Ambient Air Quality Standard (NAAQS):

- 1997 8-hr O_3 = 0.085 ppm
- 2008 8-hr O_3 = 0.075 ppm
- EPA is reevaluating 2008 standard and may revised to between 0.06 – 0.07 ppm [\(more info\)](#)

Nonattainment designation if ambient measurements >NAAQS

Health affects of ozone exposure:

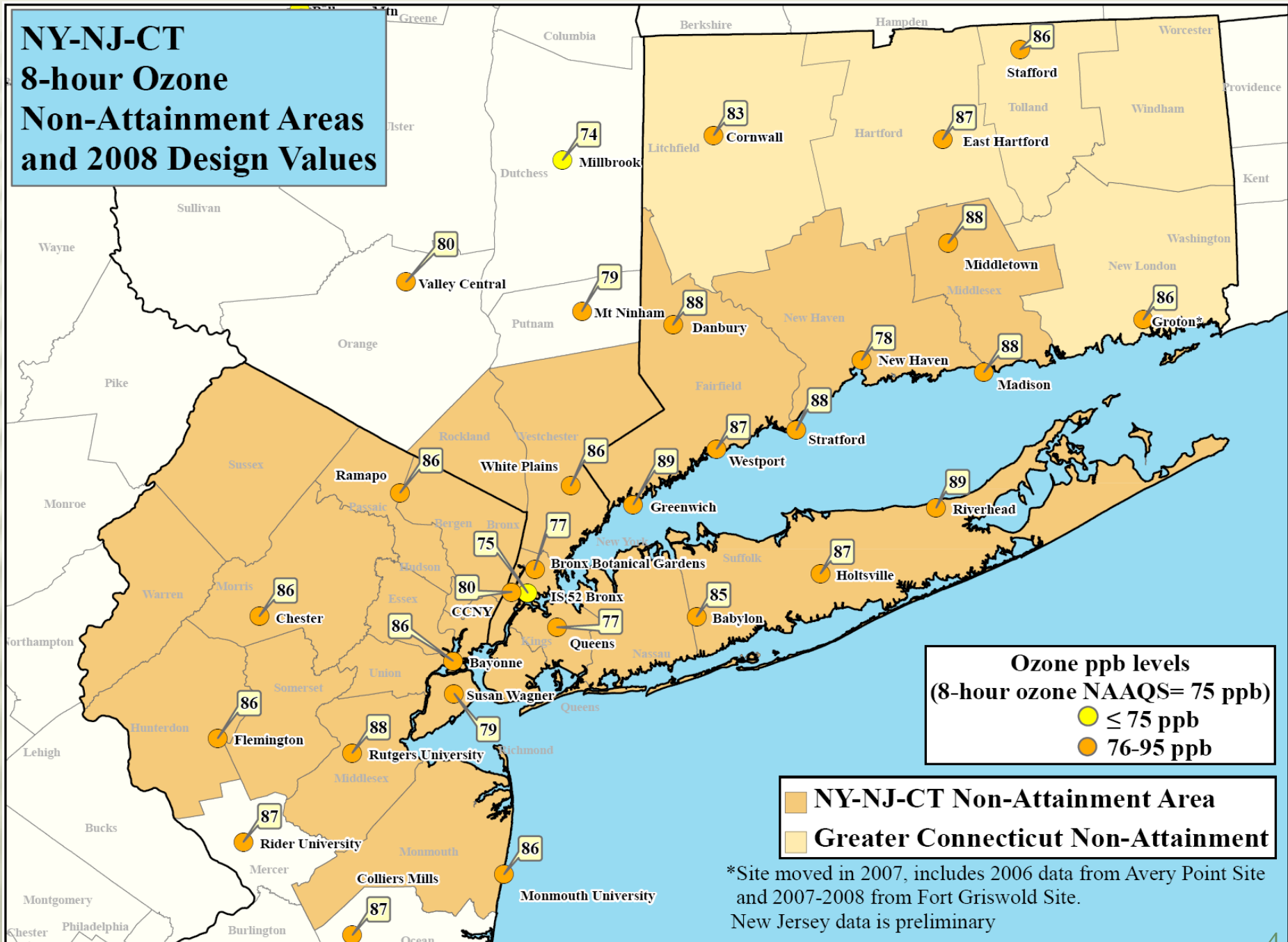
- airway irritation; reduced lung capacity; asthma aggravation; permanent lung damage

NY-NJ-CT

8-hour Ozone

Non-Attainment Areas

and 2008 Design Values



THE OTC PROCESS

Member states pool expertise to collaboratively develop control measures and evaluate costs and benefits

States evaluate each control measure based on their industrial base, current regulations and attainment needs

If the evaluations shows that it is appropriate, states adopt a regulation based on model rule

State-specific regulatory development procedures must be followed, including all public participation elements required under the Administrative Procedures Act.

OTC PROPOSED MODEL RULE

Based on the updated New Jersey regulation
(N.J.A.C. 7:27-16.2)

Level of control dependant on tank capacity and
vapor pressure of the material stored

Most requirements only apply to tanks with
capacities > 40,000 gallons

Phased compliance over 10 years for upgrades
that require removing tank from service

VOC CONTROL TECHNOLOGIES

Deck fittings and rim seals —

- deck fittings covered & gasketed with ‘no visible gaps’
- pole sleeves and floats on slotted guidepoles
- rim seals gap requirements

Domes — install on external floating roof tanks

Roof Landing —

- use lowest lander height setting
- rapid and continuous emptying and filling

O₃ Season Degassing and Cleaning Controls —

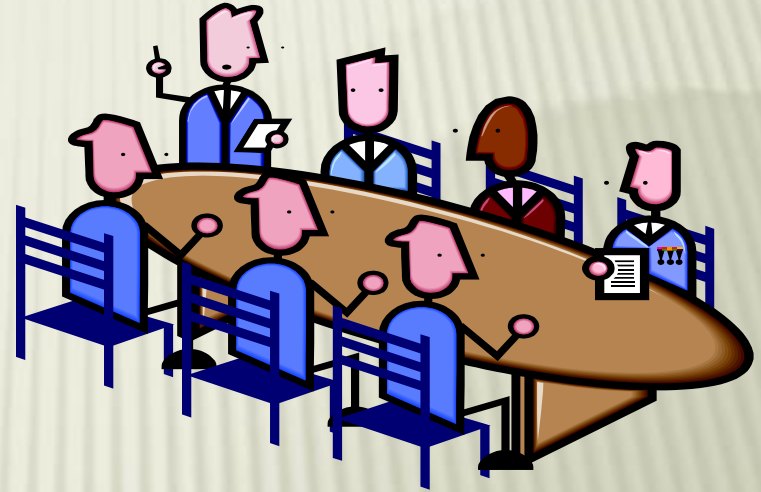
- emissions control during degassing
- controlling exhaust from sludge receiving vessels

Inspection and Maintenance

OTC STAKEHOLDER MEETING

March 16, 2010 @

DEP Headquarters
79 Elm Street
Hartford, CT



Control measures will be released prior to meeting

Stakeholder comments will be accepted

More information @ www.otcair.org

OTC STATE COMMISSIONERS MEETING

June 2010

Commissioners are scheduled to sign resolution or memorandum of understanding regarding the model rules.

- Amey Marrella has the option of not signing and to help develop the text of the agreement.**
- OTC MOUs have no penalty provisions beyond pressure from EPA and other state signatories.**

MOVING FORWARD IN CONNECTICUT

Establish baseline emissions

- Collect information about tank condition and level of emissions control installed
- Improve emissions estimates:
 - Roof landing cycles may not be adequately reported
 - A number of ASTs are not included in the inventory

Assess relevance of proposed control options for Connecticut sources

Quantify emissions reductions

Revise state regulations, as appropriate

MEETING AGENDA

- I. Introductions
- II. Topics for discussion
- III. Overview of the OTC and DEP process and control strategies
- IV. Identify and characterize emissions sources:
 - Historical emissions
 - Current management practices/emissions controls
 - Business cycles/Implementation phase-in requirements
- V. Emissions reductions opportunities:
 - Define state-of-the-art technology
 - Identify up-and-coming technology
- VI. Other
- VII. Next Steps
- VIII. Adjournment